

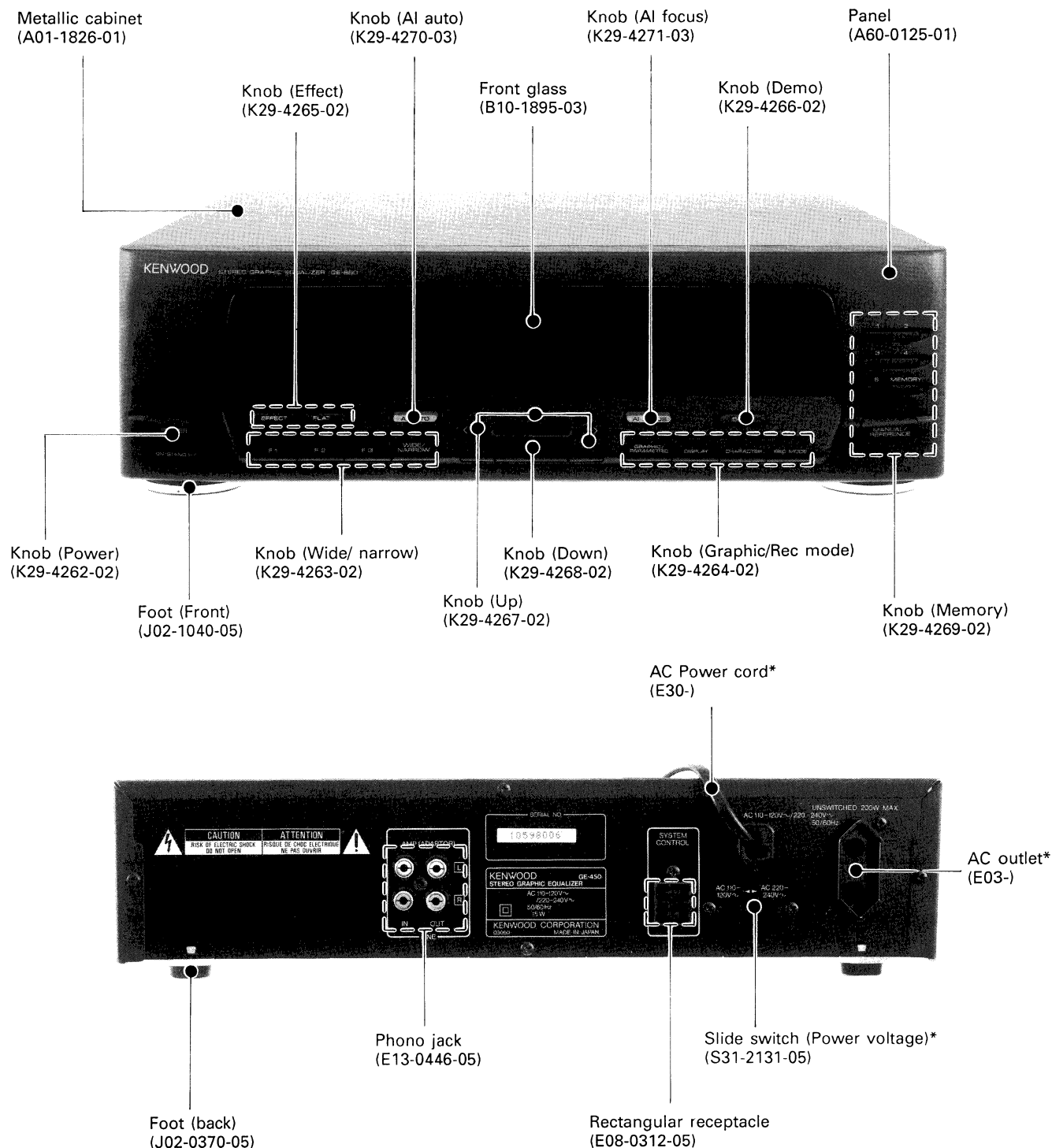
STEREO GRAPHIC EQUALIZER

GE-850

SERVICE MANUAL

KENWOOD

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B51-4349-00(O) 1941



* Refer to parts list on page 24.

GE-850

CONTENTS / ACCESSORIES

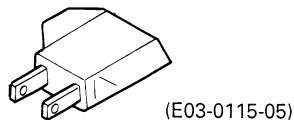
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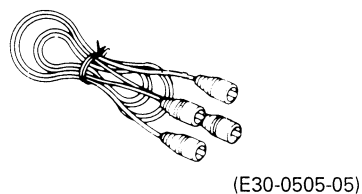
Accessories

AC plug adaptor 1

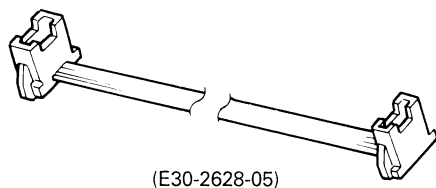
(Except for some areas)
For the unit with a European AC
plug in areas other than Europe.



Audio cord 2

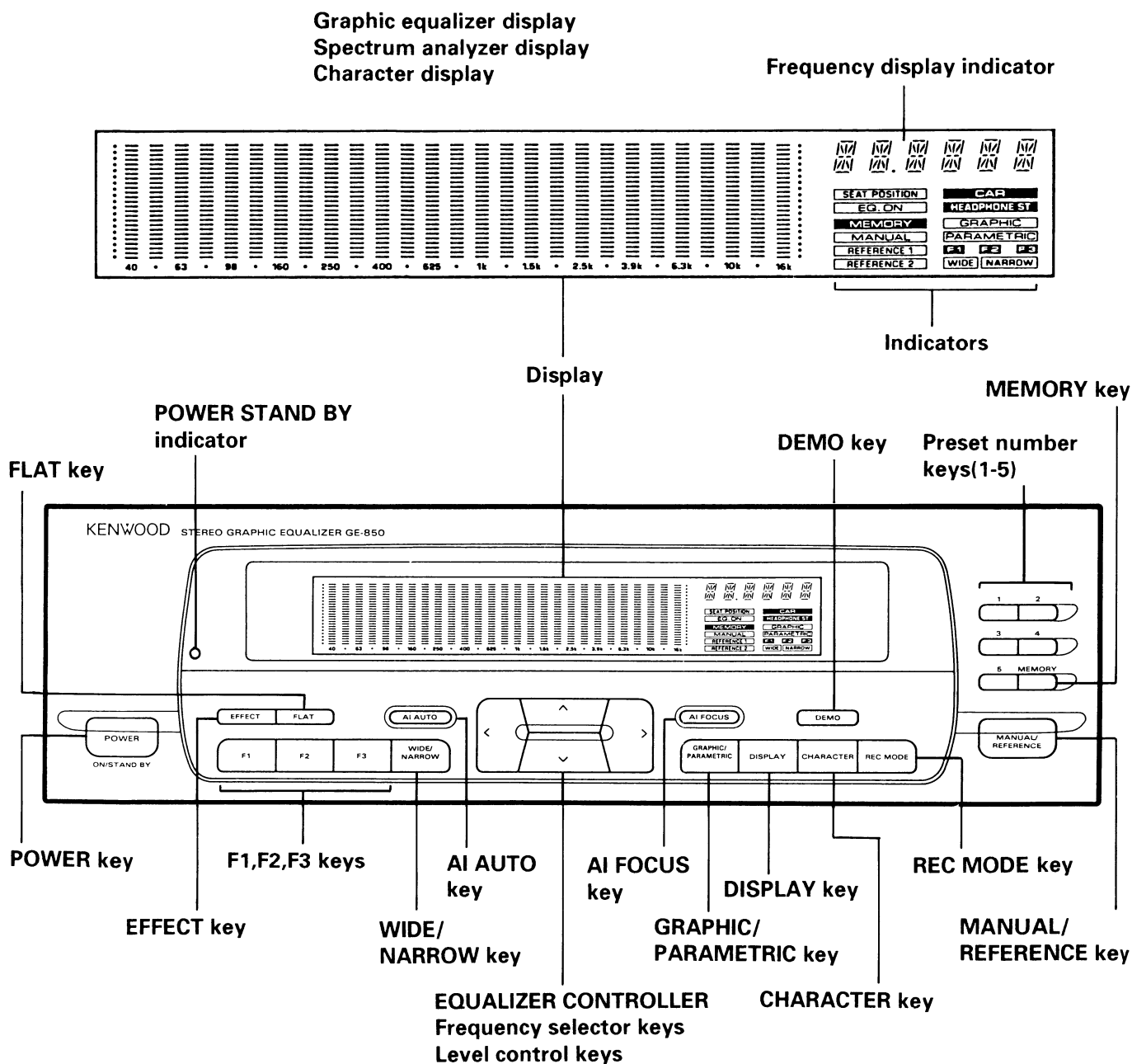


System control cord 1



CONTROLS / CAUTION

Controls

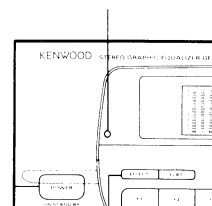


Caution

STAND BY mode of POWER switch

When the power cord of this system is plugged into an AC outlet, the STAND BY indicator lights up regardless of the ON/OFF setting of the POWER switch. This indicates that a small amount of current is being supplied to the unit to back up the memory contents. This mode is referred to as the Stand By mode.

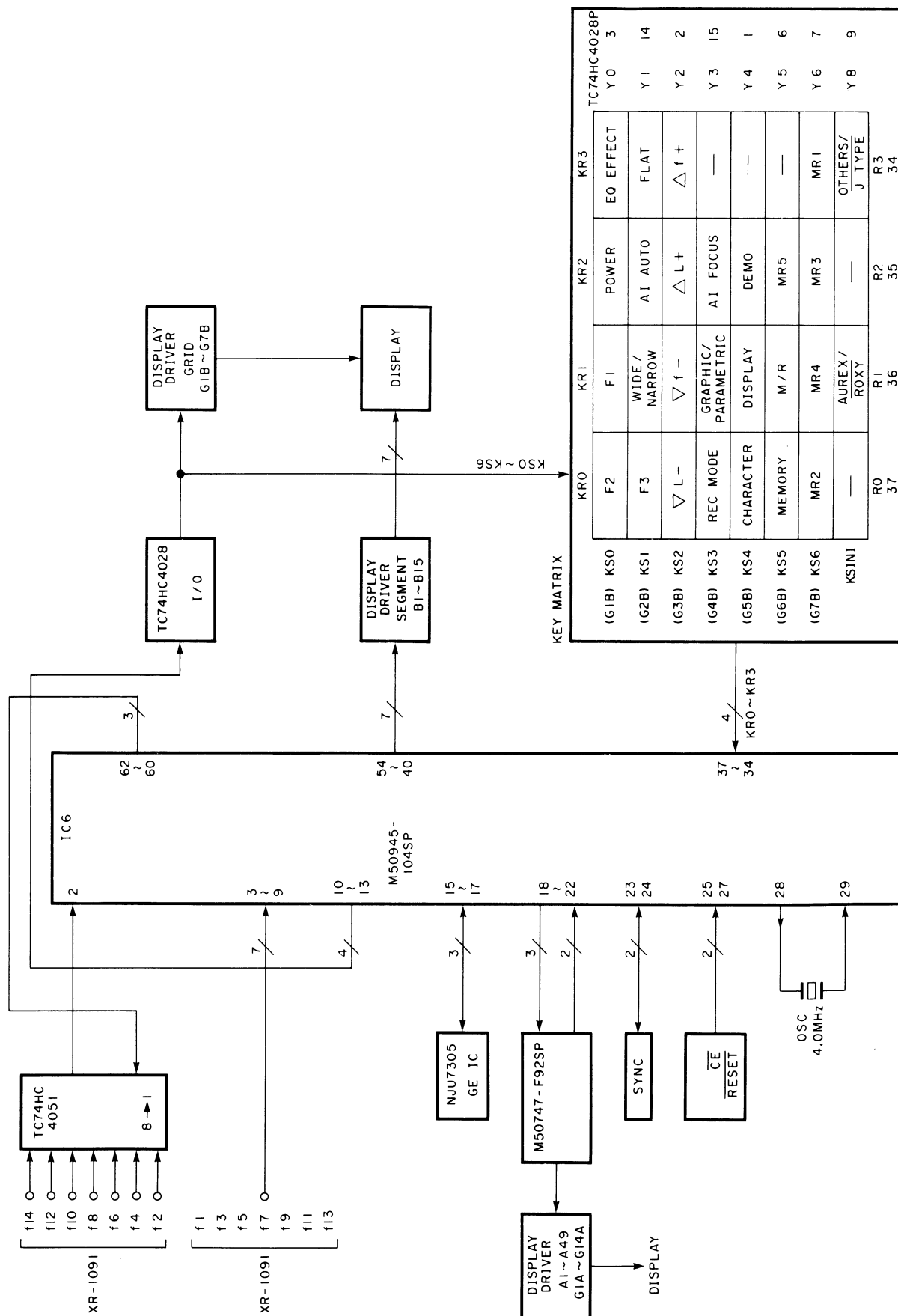
Lights up



GE-850

CIRCUIT DESCRIPTION

1. Microprocessor Block Diagram and Key Matrix



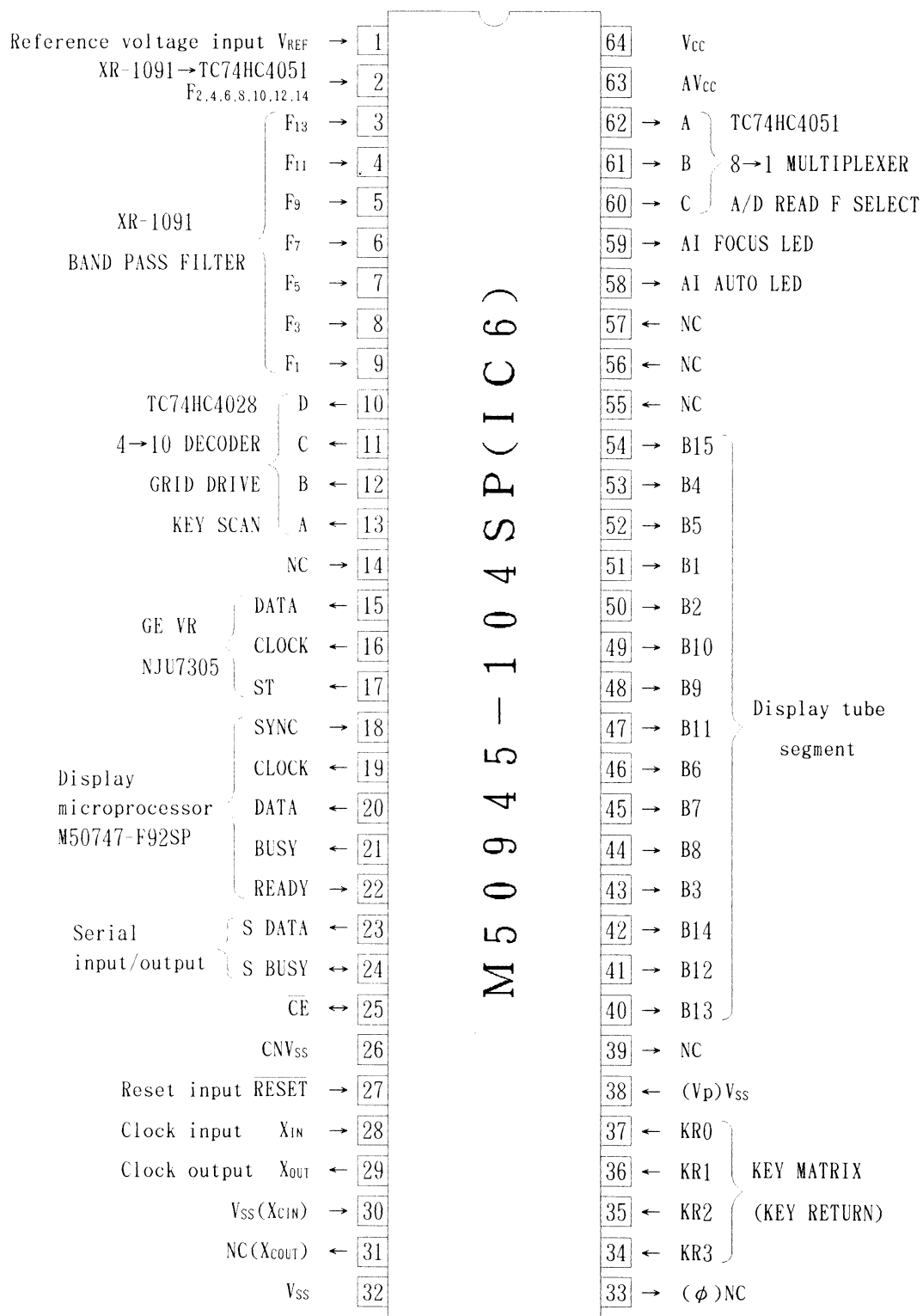


GE-850

CIRCUIT DESCRIPTION

2. Main Microprocessor : M50945-104SP (IC6 : X14-3240-21)

2-1. Terminal connection diagram



CIRCUIT DESCRIPTION

2-2. Description of terminals

Pin No.	Pin Name	I/O	Name	Description
1	VREF	–	VREF	Reference voltage input for A/D converter.
2	IN7	I	F8~F14	Analog signal input for 1kHz~16kHz and AMP VR position detection. (For inputting signal coming in by way of Multiplexer TC74HC4051.)
3	IN6	I	F13	10kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
4	IN5	I	F11	3.9kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
5	IN4	I	F9	1.5kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
6	IN3	I	F7	625Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
7	IN2	I	F5	250Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
8	IN1	I	F3	98Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
9	IN0	I	F1	40Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
10~13	P47~P44	O	D~A	Control signal output for Multiplexer TC74HC4028 (4 → 10)
14	P43	O	NC	Unused.
15	P42	O	DATA	Output of NJU7305 CONTROL DATA signals for electronic VR of graphic equalizer.
16	P41	O	CLOCK	Output of NJU7305 CONTROL CLOCK signals for electronic VR of graphic equalizer.
17	P40	O	ST	Output of NJU7305 CONTROL ST signals for electronic VR of graphic equalizer.
18	P37	I	SYNC	Input for transfer display data indication signals. H : DISPLAY MODE data L : LEVEL or POINT data
19	P36 (CLK)	O	CLOCK	CLOCK signal output for DISPLAY data transfer.
20	P35 (Sout)	O	DATA	DATA signal output for display.
21	P34	O	BUSY	Output for DISPLAY DATA TRANSFERRING signals. H : Data transferring L : Others
22	P33	I	READY	Input for DISPLAY DATA TRANSFERRABLE signal. H : Not transferrable L : Transferrable
23	P32	I/O	SDATA	Input/Output for SYSTEM SERIAL DATA signal.
24	P31	I/O	SBUSY	Input/Output for SYSTEM SERIAL BUSY signal.
25	P30	I	CE	BACK UP detection. H : Others L : Backing up
26	CNVss	–	Vss	Unused.
27	RESET	I	RESET	RESET signal detection. H : Others L : Reset
28	XIN	I	XIN	System clock input (4.0MHz).
29	XOUT	O	XOUT	System clock output.
30	XCIN	I	Vss	Unused. (Clock input terminal for timer.)
31	XCOUT	O	NC	Unused. (Clock output terminal for timer.)
32	Vss	–		GND.
33	ø	O	NC	Unused. (Output terminal for system clock 1/4 divided frequencies.)
34~37	R3~R0	I	KR3~KR0	KEY RETURN signal input.
38	Vp	–	Vss	Pull down input.
39	P17	O	NC	Unused.
40~54	P16~P00	O	B1~B15	Output for DISPLAY TUBE SEGMENT DRIVE. H : ON L : OFF
55~57	P27~25	I	NC	Unused.
58	P24	O	AI AUTO LED	LED ON-OFF Control H : ON L : OFF
59	P23	O	AI FOCUS LED	LED ON-OFF Control H : ON L : OFF
60~62	P22~P20	O	A~C	Control signal for multiplexer TC74HC4051.
63	AVcc	–	AVcc	Power supply for A/D converter (+5V).
64	Vcc	–	Vcc	Power supply for microprocessor (+5V).

CIRCUIT DESCRIPTION

3. Data of MEMORY EQ CURVE

(1) REFERENCE I x 5

SOFT • CLEAR • HEAVY • SCALE • NR

(2) REFERENCE II x 5 (Double-speed REC curve)

SOFT • CLEAR • HEAVY • SCALE • NR

(3) MANUAL x 5 (RESET curve at initialized)

DSP PRESENCE MODE ARENA : POPULAR or ROCK CONCERT

DSP PRESENCE MODE STADIUM : POPULAR or ROCK CONCERT

DSP PRESENCE MODE ARENA or STADIUM or CHURCH : CLASSIC CONCERT

CAR STEREO

HEAD PHONE STEREO

4) AI AUTO x 25

(I) 1 (1) : L1-H1	(II) 6 (6) : L2-H1	(III) 11 (a) : L3-H1	(IV) 16 (f) : L4-H1	(V) 21 (k) : L5-H1
2 (2) : L1-H2	7 (7) : L2-H2	12 (b) : L3-H2	17 (g) : L4-H2	22 (l) : L5-H2
3 (3) : L1-H3	8 (8) : L2-H3	13 (c) : L3-H3	18 (h) : L4-H3	23 (m) : L5-H3
4 (4) : L1-H4	9 (9) : L2-H4	14 (d) : L3-H4	19 (i) : L4-H4	24 (n) : L5-H4
5 (5) : L1-H5	10 (0) : L2-H5	15 (e) : L3-H5	20 (j) : L4-H5	25 (o) : L5-H5

(5) AI FOCUS 6 x 5

(I) ARENA x 5 (II) JAZZ CLUB x 5 (III) STADIUM x 5 (IV) DISCO x 5 (V) CHURCH x 5 (VI) MOVIE x 5

(6) AI LINK x 6

ARENA • JAZZ CLUB • STADIUM • DISCO • CHURCH • MOVIE

(7) AI TIMER1 x 2

STEP1 • STEP2

4. Test Mode

4-1. Test mode with key switch

• Setting method

1. Press the M/R key switch, connect the AC plug to an outlet. (SEGMENT Check mode)
2. Pressing the FALT key switch, connect the AC plug to an outlet. (All segments light-up mode)

• Contents of operation

- 1-1. If the mode is selected, the short check of the segment terminals is indicated. If any key switch is pressed, the device returns to the normal indication but it is kept in the test mode.
- 1-2. If the short check of the segment terminals is indicated, the bars of all the bands light up by five segments, and the lighting bars move up at the interval of 256msec. The 14-segment indicator and mode indicator on the right continue lighting in order of B15, B4, B5, B1, B2, B10, B9, B11, B6, B7, B8, B3, B14, B12, B13, B15, B4 ..

- 1-3. Set the contents of the MANUAL PRESET MEMORY as follows.

M1 : FLAT (ALL 0dB)

M2 : ALL MAX (ALL +12dB)

M3 : ALL MIN (ALL -12dB)

- 1-4. The EQ LEVEL UP/DOWN operation is set to three points of +12dB, 0dB, and -12dB at all the frequencies.
- 2-1. If the system is set to the test mode, all the indicator elements light up. If any key switch is pressed, the system returns to the normal indicating condition, but it is still in the test mode. The operation in the test mode is the same as 1-3, and 1-4.

• Resetting method of test mode and initialization

In either the key switch test mode or the serial test mode, if the AC plug is disconnected from the outlet and connected again to the outlet, the microprocessor is initialized and the power is turned off. At the same time, the test mode is reset.

CIRCUIT DESCRIPTION

5. Transfer Method

Data are transferred by the unit of 8-bits in the LSB first mode.

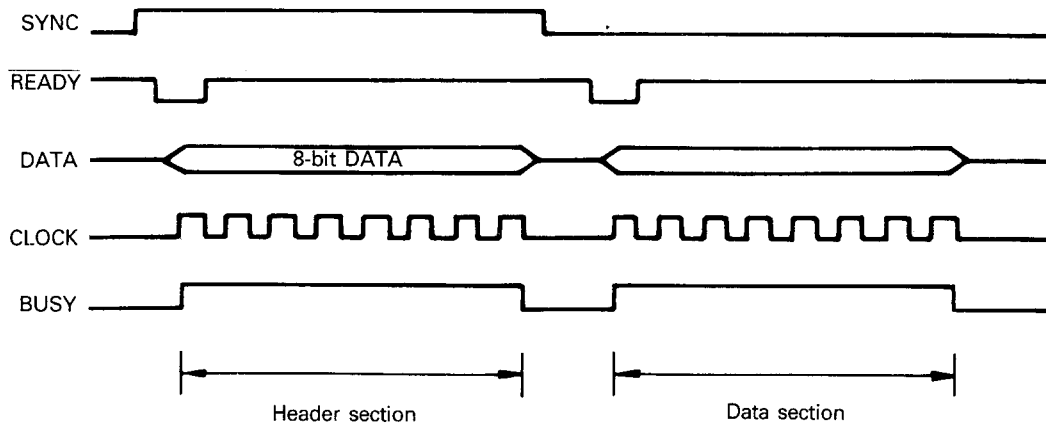
- SYNC is raised at the header to clearly show the divisions of the transferred data (including the header).
- $\overline{\text{READY}}$ is raised at the head of each 8-bit datum to clearly shows each division of the data.
- If any mistake is made in the transfer of data, the highest priority is given to SYNC to modify the synchronization of data.
- Data are taken in at the rise of the clock.
- BUSY is raised when data are transferred.
- Transfer is started when READY is raised.
- DATA are sent with LSB at head.

5-2. Transfer method

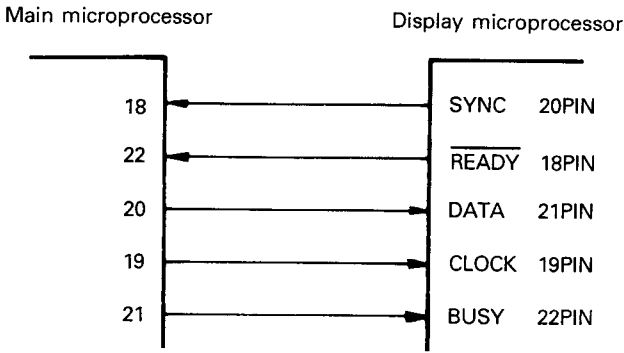
First, the display microprocessor notifies the transmission of the header to the main microprocessor by setting SYNC to "H". Then, it set $\overline{\text{READY}}$ to "L" to notify that it can receive data.

When the $\overline{\text{READY}}$ is set to "L", the main microprocessor checks SYNC. If SYNC is "H", the main microprocessor sends the header signal to the display microprocessor ($\overline{\text{READY}}$ returns to "H" at the first rise of the clock).

If the display microprocessor receives an 8-bit data and confirms that it is a header, it turns SYNC to "L" and also turns $\overline{\text{READY}}$ to "L" again, then demands the data from the main microprocessor.



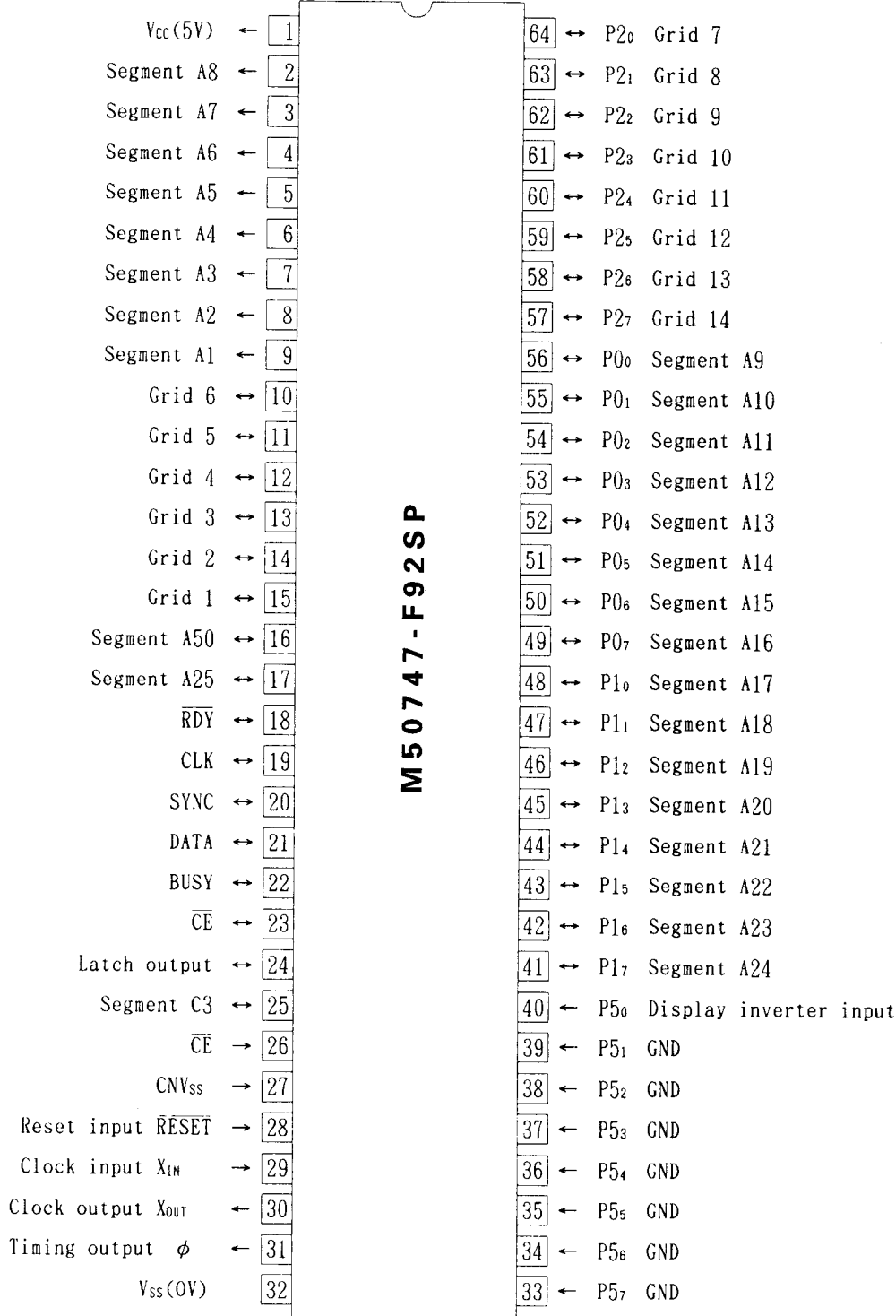
6-1. Connection



CIRCUIT DESCRIPTION

6. Display Microprocessor : M50747-F92SP (IC5 : X14-3240-21)

6-1. Terminal connection diagram



6-2. Description

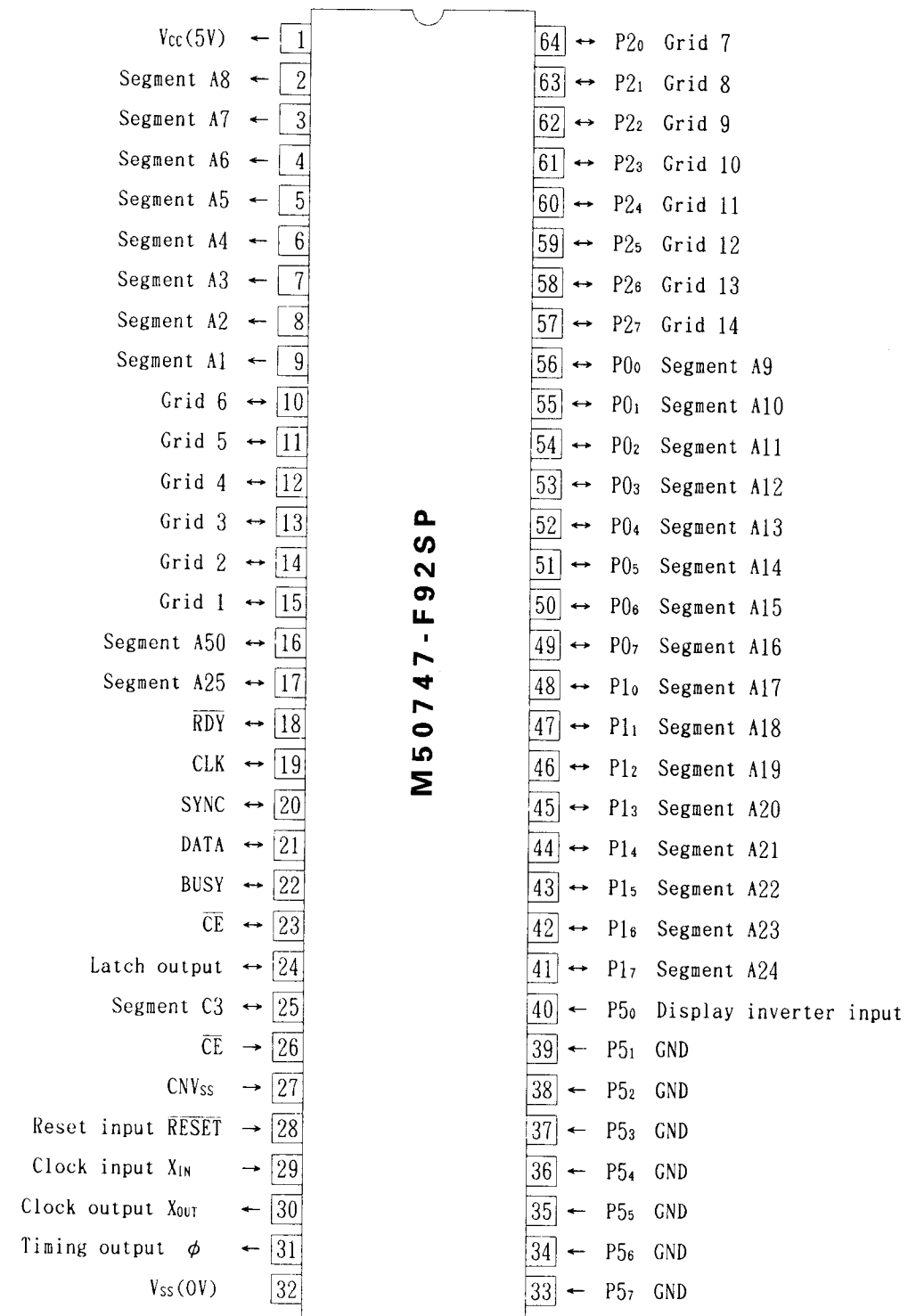
Pin No.	Pin
1	V _{CC}
2	P2 ₀
3	P2 ₁
4	P2 ₂
5	P2 ₃
6	P2 ₄
7	P2 ₅
8	P2 ₆
9	P2 ₇
10	P0 ₀
11	P0 ₁
12	P0 ₂
13	P0 ₃
14	P0 ₄
15	P0 ₅
16	P0 ₆
17	P0 ₇
18	P1 ₀
19	P1 ₁
20	P1 ₂
21	P1 ₃
22	P1 ₄
23	P1 ₅
24	P1 ₆
25	P1 ₇
26	P5 ₀
27	P5 ₁
28	P5 ₂
29	P5 ₃
30	P5 ₄
31	P5 ₅
32	P5 ₆

CIRCUIT DESCRIPTION

6. Display Microprocessor : M50747-F92SP (IC5 : X14-3240-21)

6-1. Terminal connection diagram

cessor
PIN
PIN
PIN
PIN
PIN



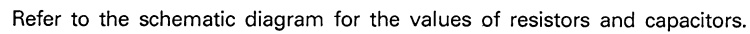
CIRCUIT DESCRIPTION

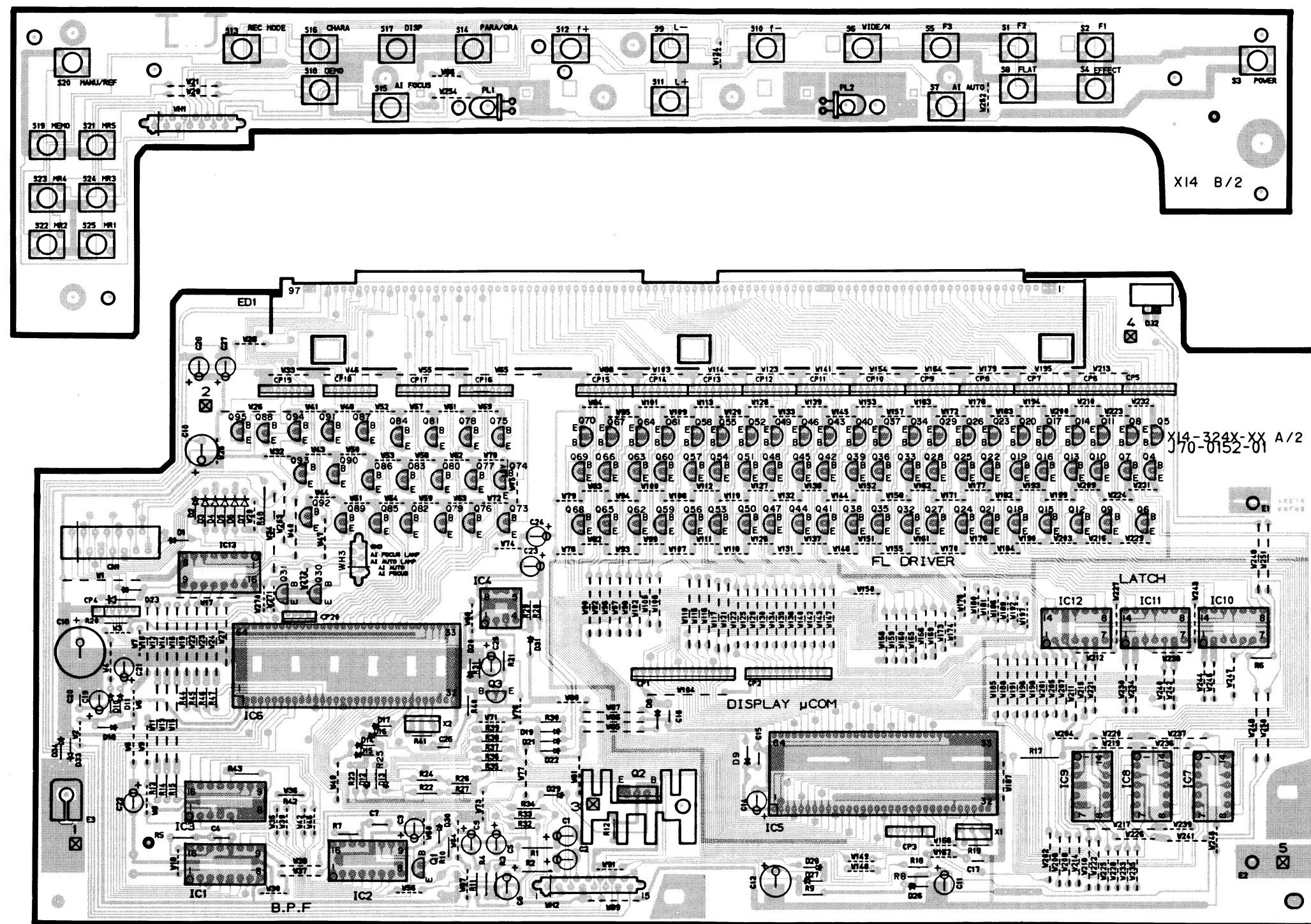
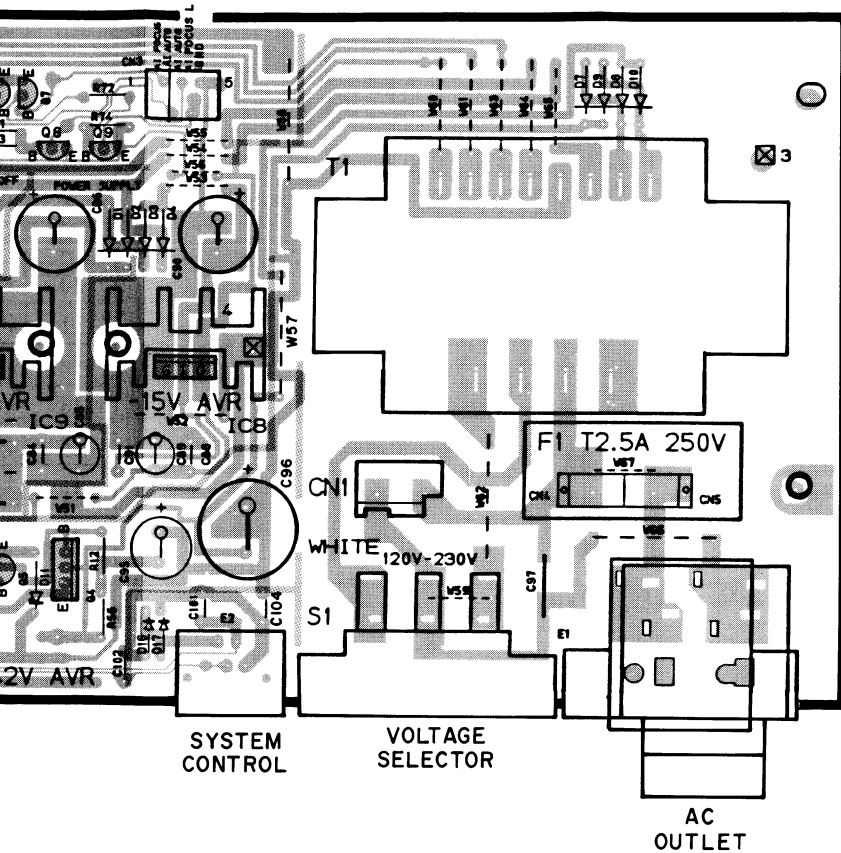
6-2. Description of terminals

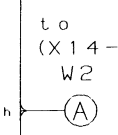
Pin No.	Pin name	I/O	Name	Description
1	V _{CC}	I	5V	Power supply
2	P67	0	Segment A8	Segment
3	P66	0	Segment A7	Segment
4	P65	0	Segment A6	Segment
5	P64	0	Segment A5	Segment
6	P63	0	Segment A4	Segment
7	P62	0	Segment A3	Segment
8	P61	0	Segment A2	Segment
9	P60	0	Segment A1	Segment
10	P47	0	Grid 6	Grid
11	P46	0	Grid 5	Grid
12	P45	0	Grid 4	Grid
13	P44	0	Grid 3	Grid
14	P43	0	Grid 2	Grid
15	P42	0	Grid 1	Grid
16	P41	0	Segment A50	Segment
17	P40	0	Segment A25	Segment
18	P37	0	RDY	Serial RDY
19	P36	I	CLK	Serial CLK
20	P35	0	SYNC	Serial SYNC
21	P34	I	DATA	Serial DATA
22	P33	I	BUSY	Serial BUSY
23	P32	I	CE	Chip inable
24	P31	0	LATCH OUT	74HC77 latch control
25	P30	0	Segment C3	Segment
26	INT1	0	CE	Chip inable
27	CNV _{SS}	I	CNV _{SS}	GND
28	RESET	I	RESET	RESET
29	X _{IN}	I	X _{IN}	Clock
30	X _{OUT}	0	X _{OUT}	Clock
31	φ	0	φ	Timing signal φ output
32	V _{SS}	I	V _{SS}	GND

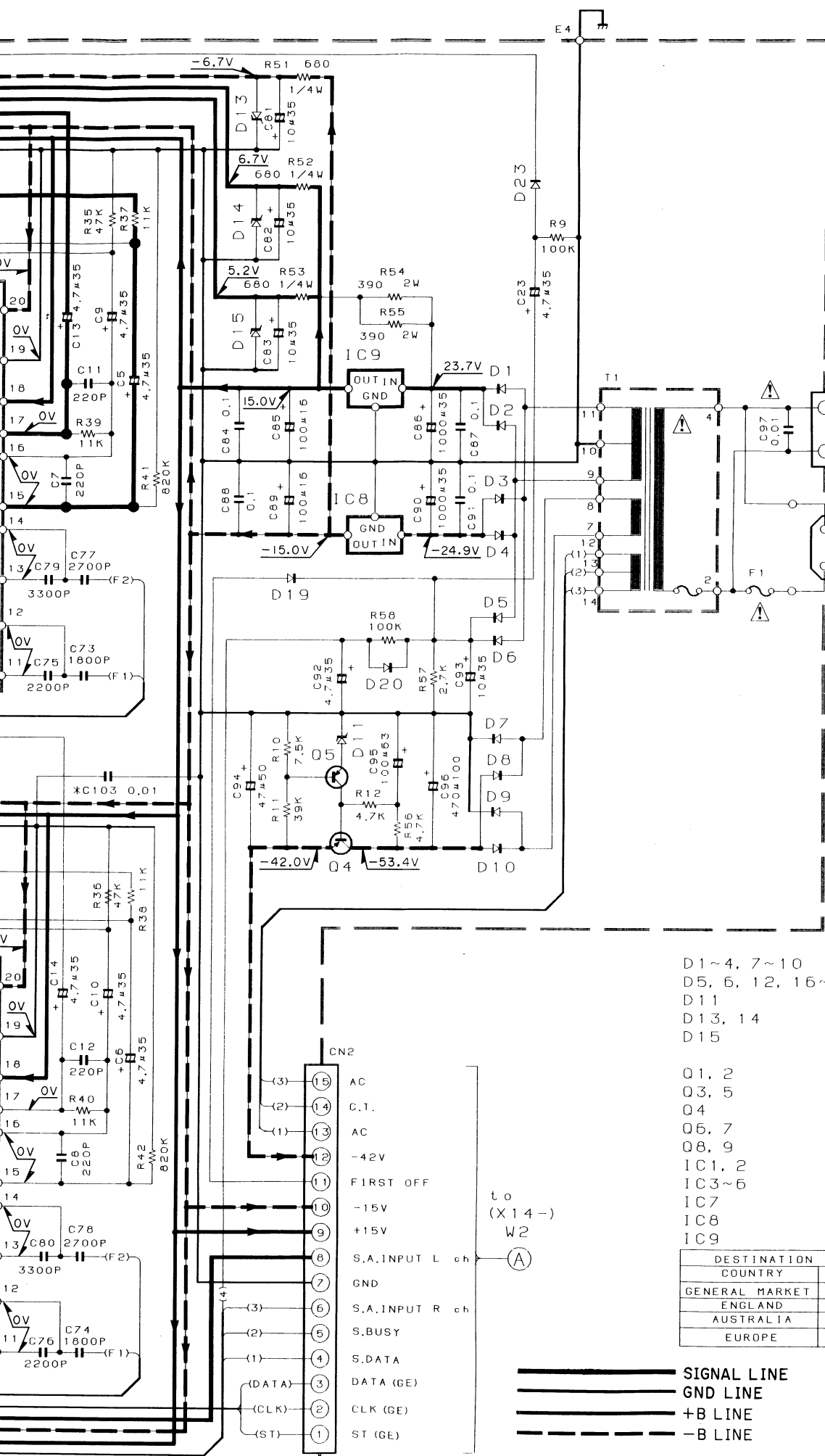
Pin No.	Pin name	I/O	Name	Description
33	P57	I	P57	GND
34	P56	I	P56	GND
35	P55	I	P55	GND
36	P54	I	P54	GND
37	P53	I	P53	GND
38	P52	I	P52	GND
39	P51	I	P51	GND
40	P50	I	Invert	Display invert input
41	P17	0	Segment A24	Segment
42	P16	0	Segment A23	Segment
43	P15	0	Segment A22	Segment
44	P14	0	Segment A21	Segment
45	P13	0	Segment A20	Segment
46	P12	0	Segment A19	Segment
47	P11	0	Segment A18	Segment
48	P10	0	Segment A17	Segment
49	P07	0	Segment A16	Segment
50	P06	0	Segment A15	Segment
51	P05	0	Segment A14	Segment
52	P04	0	Segment A13	Segment
53	P03	0	Segment A12	Segment
54	P02	0	Segment A11	Segment
55	P01	0	Segment A10	Segment
56	P00	0	Segment A9	Segment
57	P27	0	Grid 14	Grid
58	P26	0	Grid 13	Grid
59	P25	0	Grid 12	Grid
60	P24	0	Grid 11	Grid
61	P23	0	Grid 10	Grid
62	P22	0	Grid 9	Grid
63	P21	0	Grid 8	Grid
64	P20	0	Grid 7	Grid

A B C D E F G H I J K





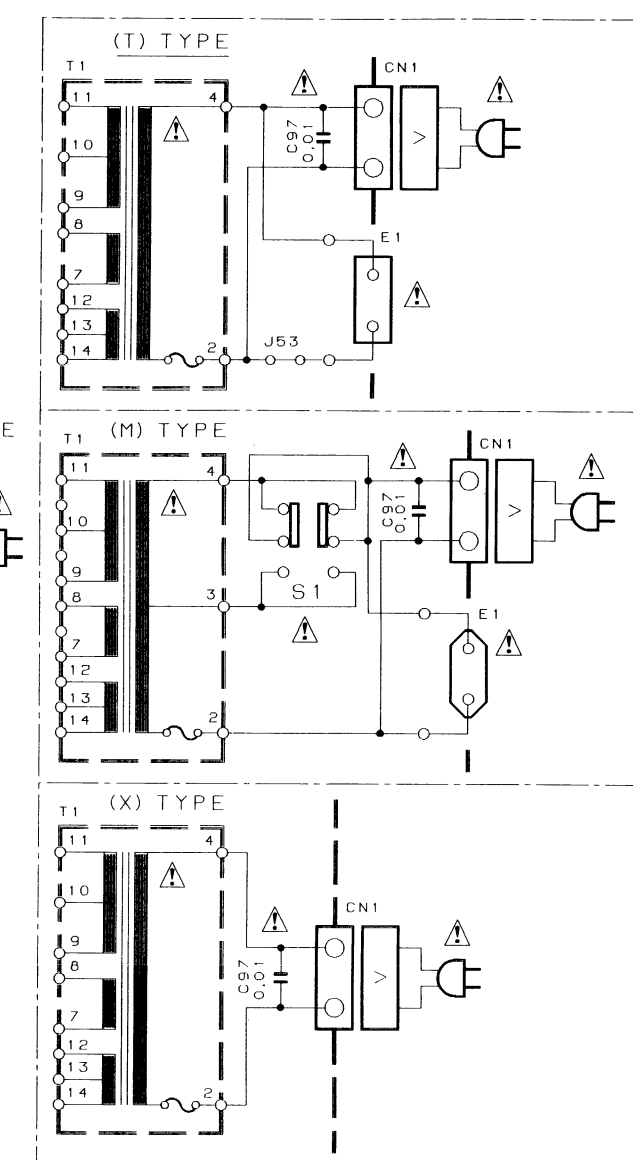




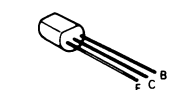
- D1~4, 7~10 : S5688B or 1SR139-100
D5, 6, 12, 16~24 : HSS104A or 1SS131
D11 : RD6.2ES (B2) or HZS6.2N (B2)
D13, 14 : RD6.8ES (B2) or HZS6.8N (B2)
D15 : RD5.1ES (B2) or HZS5.1N (B2)
- Q1, 2 : 2SC2878 (B)
Q3, 5 : 2SA933S (Q, R) or 2SA1309A (Q, R)
Q4 : 2SB941
Q6, 7 : UN4112 or DTA124ES
Q8, 9 : 2SC3246
IC1, 2 : NJU7305L
IC3~6 : M5229P
IC7 : NJM4558D
IC8 : μ PC7915HF
IC9 : μ PC7815HF

DESTINATION COUNTRY	ABB.	UNIT NAME	R1, 2	R65, 66	C103, 104
GENERAL MARKET	M	X11-3200-21			
ENGLAND	T	X11-3200-51	100	100	NO
AUSTRALIA	X	X11-3200-71			
EUROPE	E	X11-3202-71	470	1.5K	YES

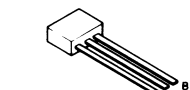
SIGNAL LINE
GND LINE
+B LINE
-B LINE



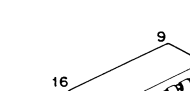
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2SC2878
2SC3246



UN4212
2SA1309A
2SC3311A



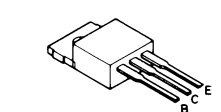
TC74HC4051AP



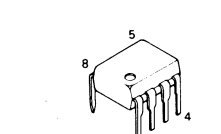
μ PC7815HF



2SD1266



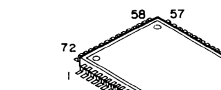
NJM4558D



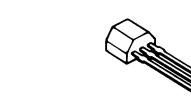
M5229P



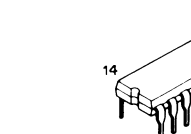
M50747-F92SP



DTA124ES 2SA
DTC124ES 2SC
UN4112



TC74HC77AP



BA10393

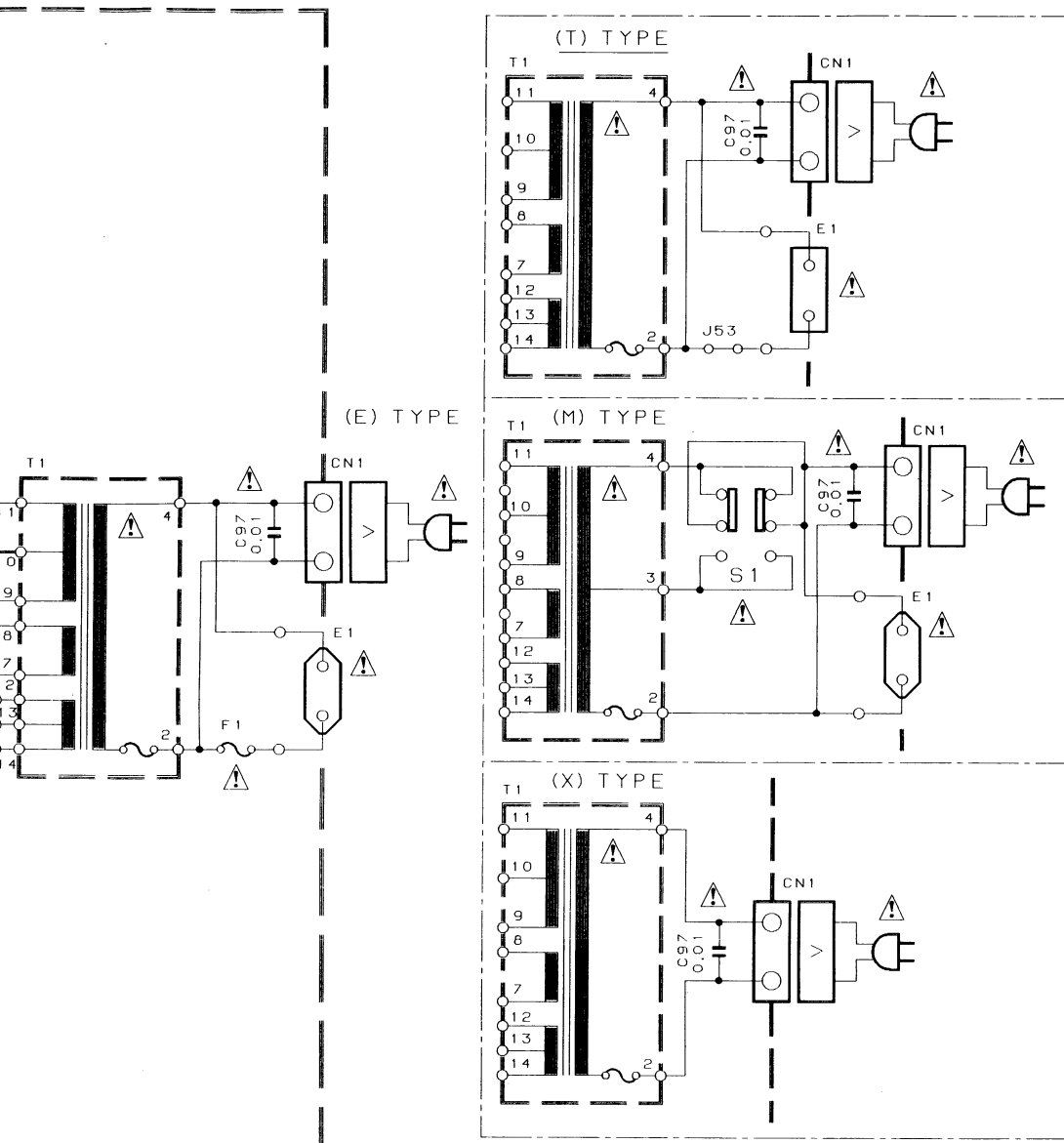


μ PC7915HF



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

• DC voltages
voltmeter. V
between inc



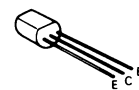
- D1~4, 7~10 : S5688B or 1SR139-100
D5, 6, 12, 16~24 : HSS104A or 1SS131
D11 : RD6.2ES (B2) or HZS6.2N (B2)
D13, 14 : RD6.8 ES (B2) or HZS6.8 N (B2)
D15 : RD5.1 ES (B2) or HZS5.1 N (B2)
- Q1, 2 : 2SC2878 (B)
Q3, 5 : 2SA933S (Q, R) or 2SA1309A (Q, R)
Q4 : 2SB941
Q6, 7 : UN4112 or DTA124ES
Q8, 9 : 2SC3246
IC1, 2 : NJU7305L
IC3~6 : M5229P
IC7 : NJM4558D
IC8 : μ PC7915HF
IC9 : μ PC7815HF

DESTINATION COUNTRY	ABB.	UNIT NAME	R1, 2	R65, 66	C103, 104
GENERAL MARKET	M	X11-3200-21			
ENGLAND	T	X11-3200-51	100	100	NO
AUSTRALIA	X	X11-3200-71			
EUROPE	E	X11-3202-71	470	1.5K	YES

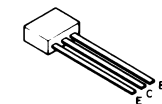
SIGNAL LINE
GND LINE
+B LINE
-B LINE

GE-850 (E) 1/2

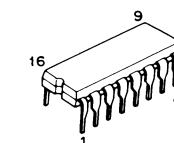
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2SC2878
2SC3246



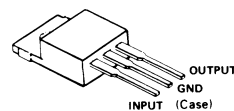
UN4212
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2SC3311A



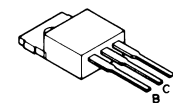
TC74HC4051AP



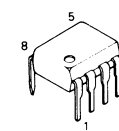
μ PC7815HF



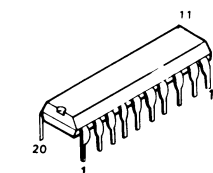
2SD1266



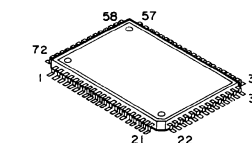
NJM4558D



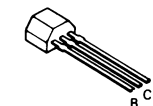
M5229P



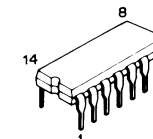
M50747-F92SP



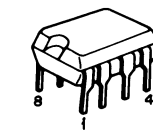
DTA124ES
DTC124ES
UN4112



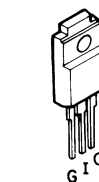
TC74HC77AP



BA10393



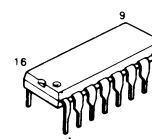
μ PC7915HF



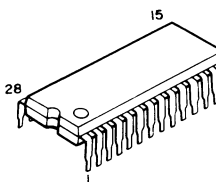
2SB941



XR-1091DCP



NJU7305L



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

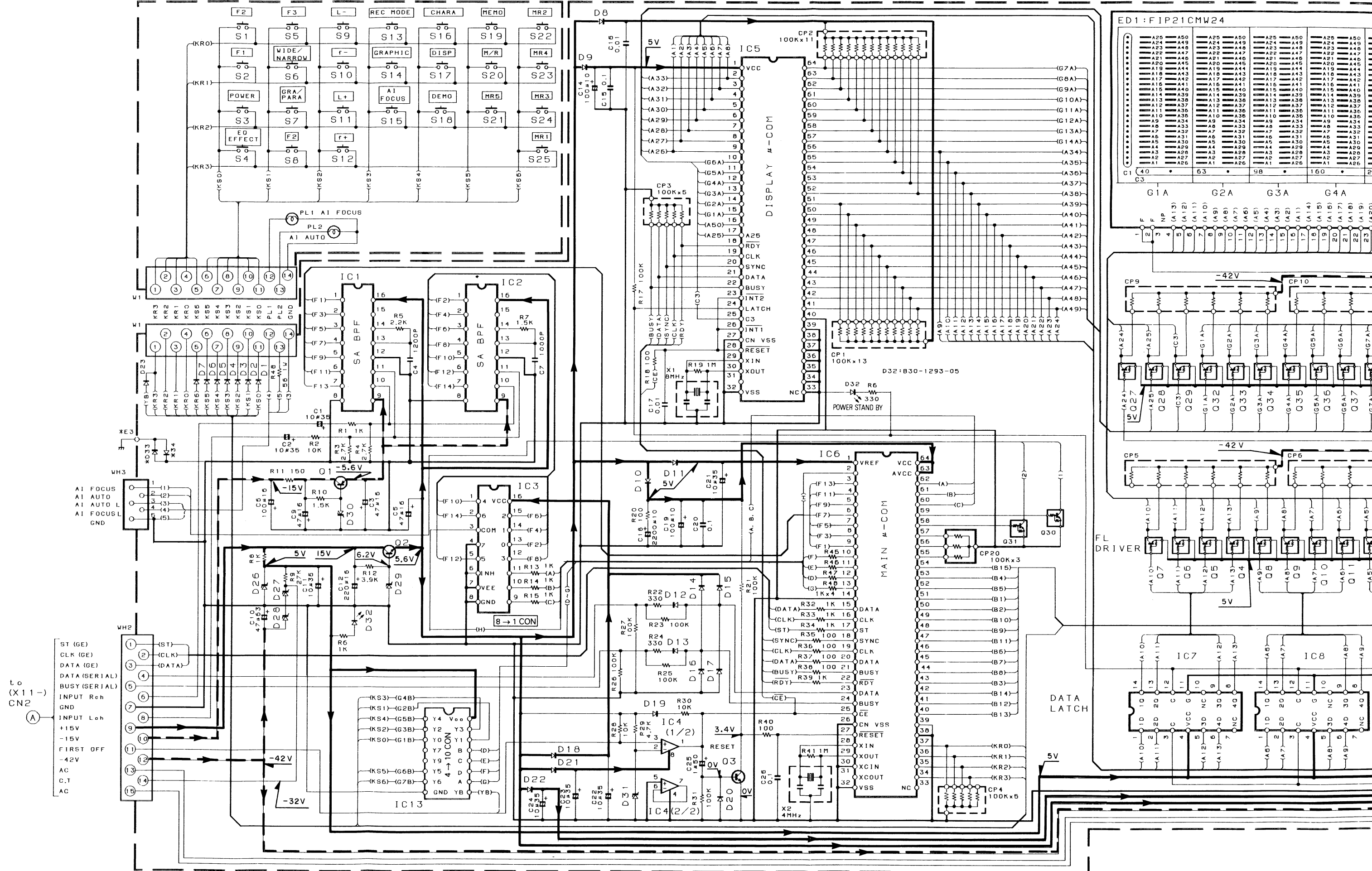
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

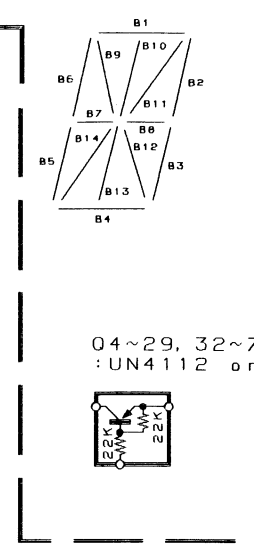
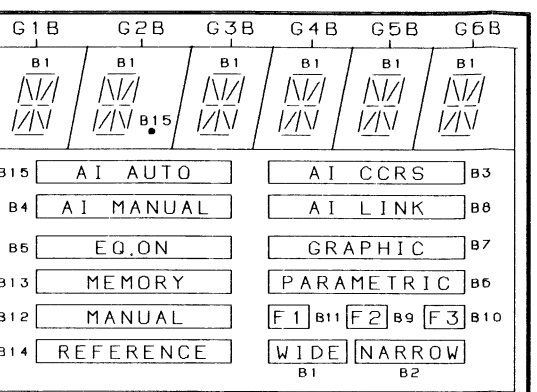
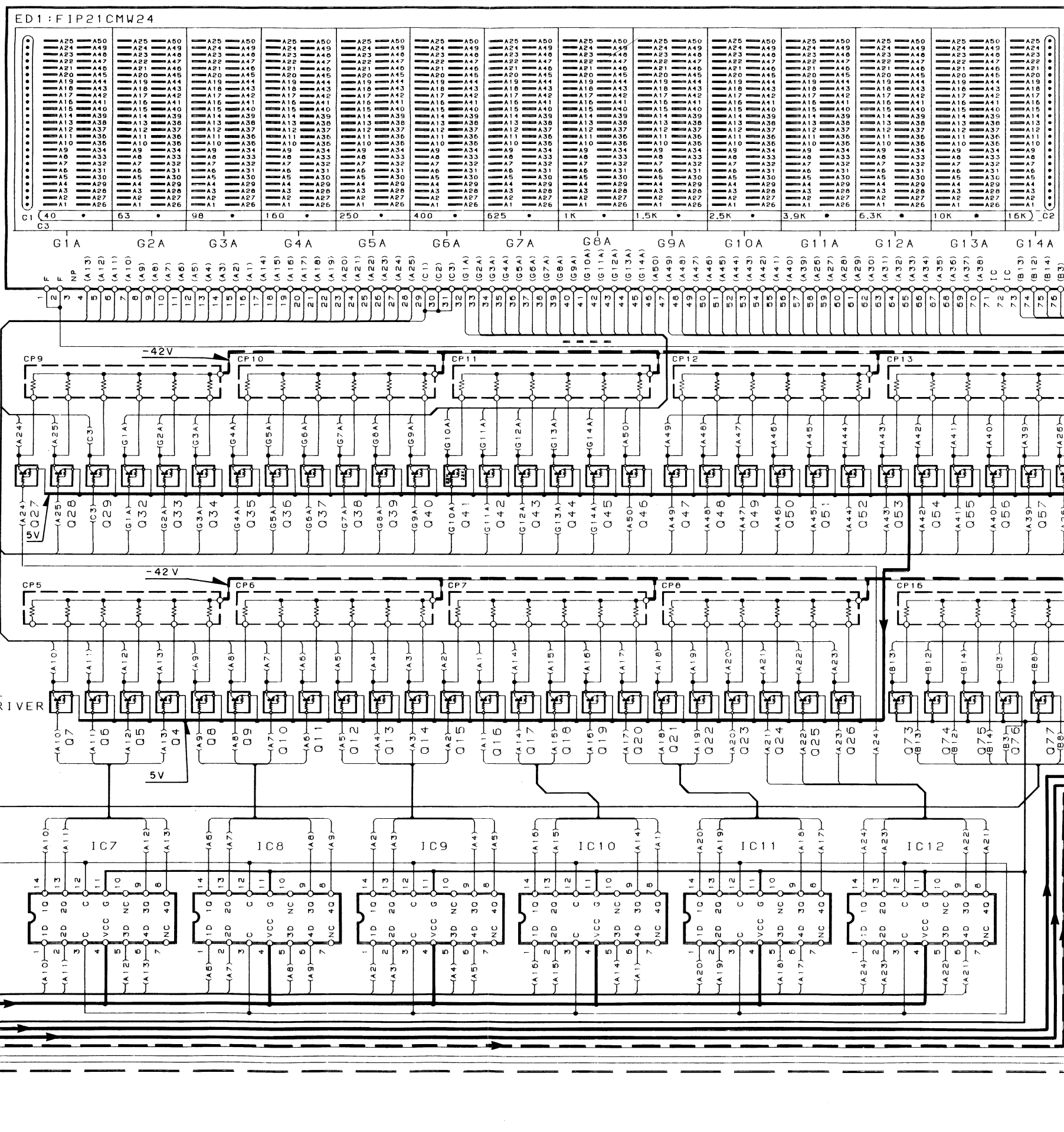
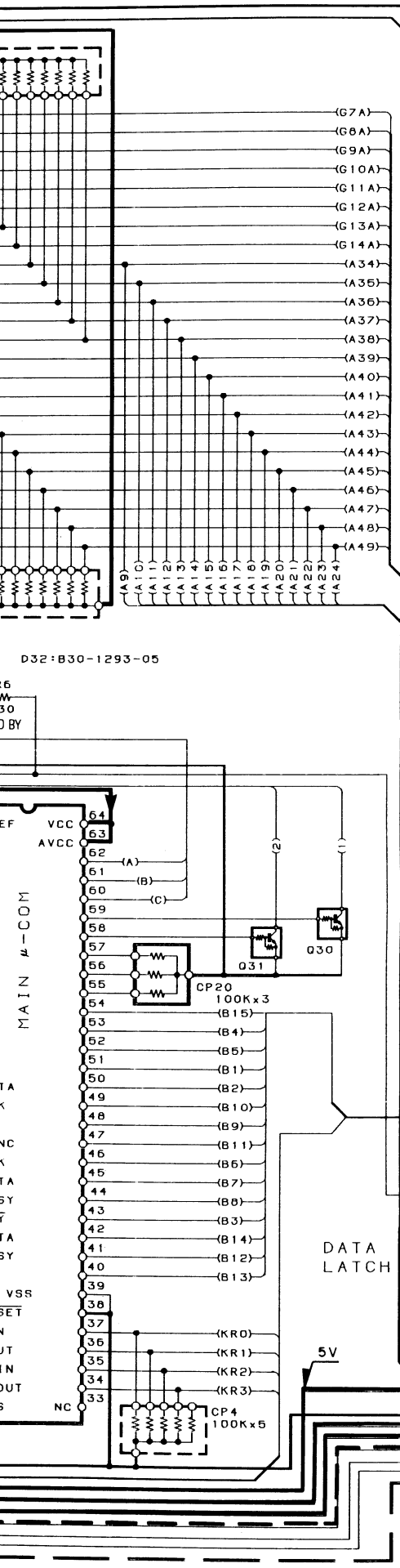
Y09-3880-21

GE-850
KENWOOD

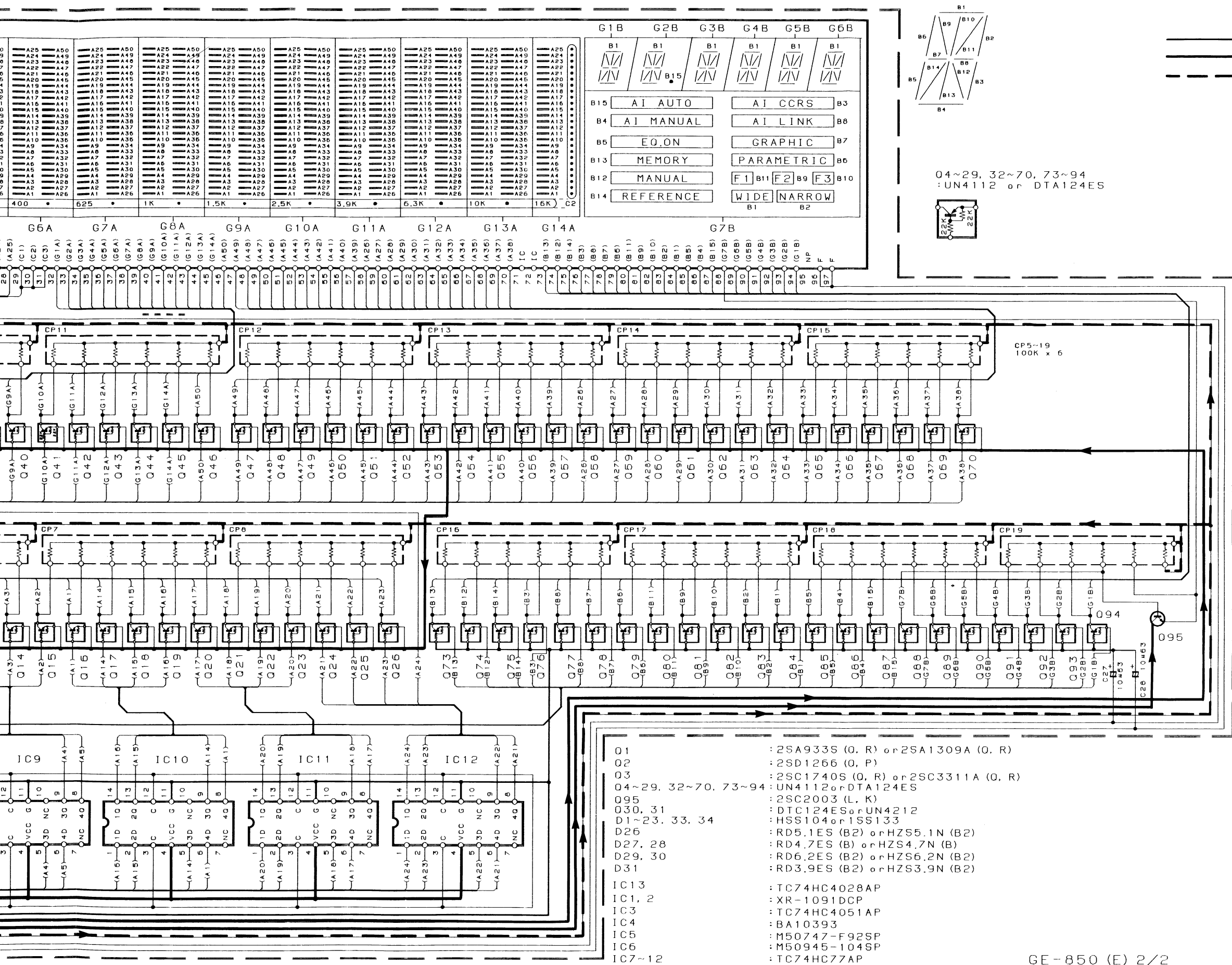
SWITCH UNIT
(X14-3240-21) (B/2)

DISPLAY UNIT
(X14-3240-21) (A/2)





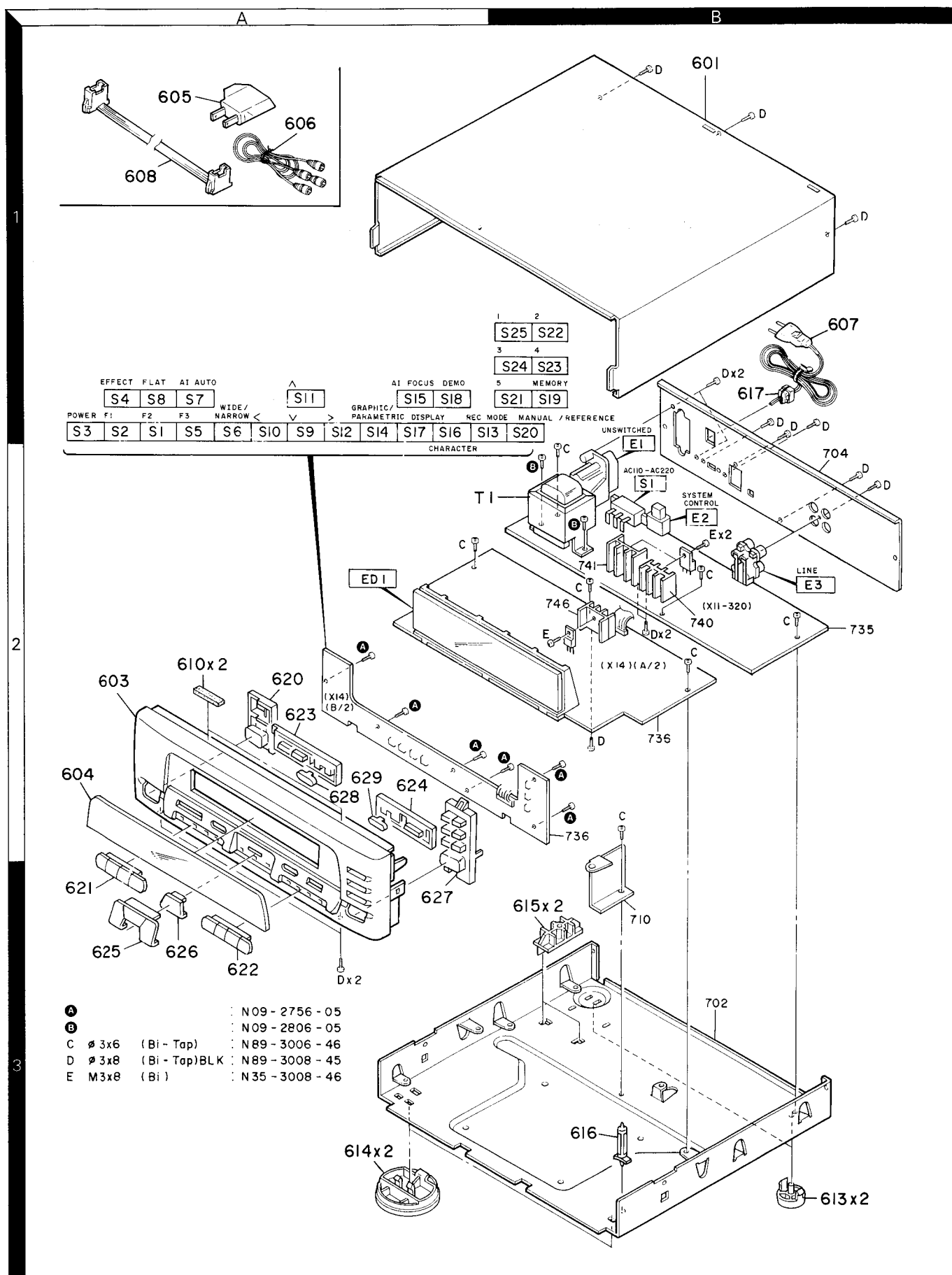
- Q1 : 2SA933S (O, R) or 2SA1309A (O, R)
- Q2 : 2SD1266 (O, P)
- Q3 : 2SC1740S (O, R) or 2SC3311A (O, R)
- Q4~29, 32~70, 73~94 : UN4112 or DTA124ES
- Q95 : 2SC2003 (L, K)
- Q30, 31 : DTC124ES or UN4212
- D1~23, 33, 34 : HSS104 or ISS133
- D26 : RD5.1ES (B2) or HZS5.1N (B2)
- D27, 28 : RD4.7ES (B) or HZS4.7N (B)
- D29, 30 : RD6.2ES (B2) or HZS6.2N (B2)
- D31 : RD3.9ES (B2) or HZS3.9N (B2)
- IC13 : TC74HC4028AP
- IC1, 2 : XR-1091DCP
- IC3 : TC74HC4051AP
- IC4 : BA10393
- IC5 : M50747-F92SP
- IC6 : M50945-104SP
- IC7~12 : TC74HC77AP



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• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

GE-850

PARTS LIST

★ New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
C17 , 18		CK45FB1H471K	CERAMIC	
C19 , 20		CE04KW1H010M	ELECTRØ	
C21 , 22		CC45FSL1H221J	CERAMIC	
C23		CE04KW1V4R7M	ELECTRØ	
C24		CE04KW1C221M	ELECTRØ	
C25 , 26		CF92FV1H683J	MF	
C27		CF92FV1H433J	MF	
C28 , 29		CF92FV1H104J	MF	
C30 , 31		CF92FV1H184J	MF	
C32		CF92FV1H433J	MF	
C33		CF92FV1H474J	MF	
C34		CF92FV1H684J	MF	
C35 , 36		CF92FV1H823J	MF	
C37		CF92FV1H563J	MF	
C38 , 39		CF92FV1H154J	MF	
C40 , 41		CF92FV1H224J	MF	
C42		CF92FV1H563J	MF	
C43		CF92FV1H564J	MF	
C44		CF92FV1H824J	MF	
C45		CF92FV1H684J	MF	
C46		CF92FV1H274J	MF	
C47		CF92FV1H824J	MF	
C48		CF92FV1H334J	MF	
C49		CF92FV1H274J	MF	
C50		CF92FV1H474J	MF	
C51		CF92FV1H334J	MF	
C52		CF92FV1H564J	MF	
C53 , 54		C91-0676-05	CERAMIC	
C55		CF92FV1H273J	MF	
C56		C91-0682-05	CERAMIC	
C57 , 58	*	C992FM1H752J	MYLAR	
C59		C91-0682-05	CERAMIC	
C60		CF92FV1H273J	MF	
C61 , 62	*	C992FM1H432J	MYLAR	
C63 , 64		C91-0680-05	CERAMIC	
C65		CF92FV1H333J	MF	
C66		C91-0684-05	CERAMIC	
C67 , 68		C992FM1H822J	MYLAR	
C69		C91-0684-05	CERAMIC	
C70		CF92FV1H333J	MF	
C71 , 72		C992FM1H562J	MYLAR	
C73 , 74		C91-0658-05	CERAMIC	
C75 , 76		C91-0660-05	CERAMIC	
C77 , 78		C91-0662-05	CERAMIC	
C79 , 80		C91-0664-05	CERAMIC	
C81 - 83		CE04KW1V100M	ELECTRØ	
C84		CF92FV1H104J	MF	
C85		CE04KW1C101M	ELECTRØ	
C86		CE04KW1V102M	ELECTRØ	
C87 , 88		CF92FV1H104J	MF	
C89		CE04KW1C101M	ELECTRØ	
C90		CE04KW1V102M	ELECTRØ	
C91		CF92FV1H104J	MF	
C92		CE04KW1V4R7M	ELECTRØ	
C93		CE04KW1V100M	ELECTRØ	

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Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
GE-850				
601	1B	A01-1826-01	METALLIC CABINET	
603	2A	A60-0125-01	PANEL	
604	2A	B10-1895-03	FRONT GLASS	X
-	-	B46-0096-23	WARRANTY CARD	E
-	-	B46-0122-13	WARRANTY CARD	T
-	-	B46-0143-13	WARRANTY CARD	
-	-	B60-0588-00	INSTRUCTION MANUAL (ENGLISH)	
-	-	B60-0589-00	INSTRUCTION MANUAL (F/G/D/I)	E
-	-	B60-0590-00	INSTRUCTION MANUAL (SPANISH)	M
-	-	B60-0591-00	INSTRUCTION MANUAL (CHINESE)	M
605	1A	E03-0115-05	AC PLUG ADAPTER	M
606	1A	E30-0505-05	AUDIO CORD	ME
607	1B	E30-2592-15	AC POWER CORD	X
607	1B	E30-2594-15	AC POWER CORD	T
608	1A	E30-2602-05	AC POWER CORD	
610	2A	E30-2628-05	CORD WITH CONNECTOR	
-	-	G11-0191-04	SOFT TAPE (90X5X2.5)	
-	-	H10-5210-02	POLYSTYRENE FOAMED FIXTURE(L)	
-	-	H10-5211-02	POLYSTYRENE FOAMED FIXTURE(R)	
-	-	H25-0224-04	PROTECTION BAG (800X400X0.03)	
-	-	H25-0232-04	PROTECTION BAG (235X350X0.03)	
-	-	H50-0159-04	ITEM CARTON CASE	
613	3B	J02-0370-05	FOOT (BACK)	
614	3A	J02-1040-05	FOOT (FRONT)	
615	3B	J19-3314-04	HOLDER	
616	3B	J19-3331-05	UNIT HOLDER	
617	1B	J42-0083-05	POWER CORD BUSHING	
620	2A	K29-4262-02	KNØB (POWER)	
621	3A	K29-4263-02	KNØB (F1-WIDE/NARROW)	
622	3A	K29-4264-02	KNØB (GRAPHIC/REC. MODE)	
623	2A	K29-4265-02	KNØB (EFFECT/FLAT)	
624	2A	K29-4266-02	KNØB (DEMO)	
625	3A	K29-4267-02	KNØB (UP)	
626	3A	K29-4268-02	KNØB (DOWN)	
627	3A	K29-4269-02	KNØB (1-5/MEMORY)	
628	2A	K29-4270-03	KNØB (AI AUTO)	
629	2A	K29-4271-03	KNØB (AI FOCUS)	
T1	2A	L07-0184-05	POWER TRANSFORMER	
A		N09-2756-05	TAPTITE SCREW (2.6X10)	
B		N09-2805-05	TAPTITE SCREW	
C		N89-3008-46	BINDING HEAD TAPTITE SCREW	
D		N89-3008-45	BINDING HEAD TAPTITE SCREW	
CONTROL (X11-3202-71)				
C1 , 2		CC45FSL1H221J	CERAMIC	
C3 , 6		CE04KW1V4R7M	ELECTRØ	
C7 , 8		CC45FSL1H221J	CERAMIC	
C9 , 10		CE04KW1V4R7M	ELECTRØ	
C11 , 12		CC45FSL1H221J	CERAMIC	
C13 , 14		CE04KW1V4R7M	ELECTRØ	
C15 , 16		CC45FSL1H221J	CERAMIC	

△ indicates safety critical components.

△ indicates safety critical components.

△ indicates safety critical components.

PARTS LIST

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4

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
DISPLAY (X14-3240-21)					
D32			B30-1293-05	LED LAMP	
PL1 , 2		*	B30-2406-05		
C1 , 2			CE04KW1V100M	ELECTR0 10UF 35WV	
C3			CE04KW1C470M	ELECTR0 47UF 16WV	
C4			C92FM1H122J	MYLAR 1200PF J	
C5			CE04KW1C470M	ELECTR0 47UF 16WV	
C6			CE04KW1C101M	ELECTR0 100UF 16WV	
C7			C92FM1H102J	MYLAR 1000PF J	
C9			CE04KW1C470M	ELECTR0 47UF 16WV	
C10			CE04KW1J470M	ELECTR0 47UF 63WV	
C11			CE04KW1V100M	ELECTR0 10UF 35WV	
C12			CE04KW1C221M	ELECTR0 220UF 16WV	
C14			CE04KW1A101M	ELECTR0 100UF 10WV	
C15			CF92FV1H104J	MF 0.100F J	
C16 , 17			C92FM1H103J	MYLAR 0.010UF J	
C18			CE04KW1A22M	ELECTR0 2200UF 10WV	
C19			CE04KW1A101M	ELECTR0 100UF 10WV	
C20			CF92FV1H104J	MF 0.10UF J	
C21 -24			CE04KW1V100M	ELECTR0 10UF 35WV	
C25			CE04KW1H010M	ELECTR0 1.0UF 50WV	
C26			CF92FV1H104J	MF 0.100F J	
C27 , 28			CE04KW1J100M	ELECTR0 10UF 63WV	
X1		*	L78-0290-05	RESONATOR (8MHz)	
X2			L78-0244-05	RESONATOR (4MHz)	
D			N89-3008-45	BINDING HEAD TAPITE SCREW	
E			N35-3008-46	BINDING HEAD MACHIN SCREW	
CP1			R90-0483-05	MULTI-COMP 100KX13 J 1/6W	
CP2			R90-0851-05	MULTI-COMP 100KX11	
CP3 , 4			R90-0855-05	MULTI-COMP 100KX5 J	
CP5 -19			R90-0500-05	MULTI-COMP 100KX6 J 1/4W	
CP20			R90-0850-05	MULTIPLE RESISTOR 100KX3	
R48			RS14KB3A560J	FL-PR00F RS 56 J 1W	
S1 -25	1A, 1B		S40-1064-05	PUSH SWITCH	
D1 -23			HSS104	DIODE	
D1 -23			1SS133	DIODE	
D26			HZS5.1N(B2)	ZENER DIODE	
D26			RD5.1ES(B2)	ZENER DIODE	
D27 , 28			HZS4.7N(B)	ZENER DIODE	
D27 , 28			RD4.7ES(B)	ZENER DIODE	
D29 , 30			HZS6.2N(B2)	ZENER DIODE	
D29 , 30			RD6.2ES(B2)	ZENER DIODE	
D31			HZS3.9N(B2)	ZENER DIODE	
D31			RD3.9ES(B2)	ZENER DIODE	
D33 , 34			HSS104	DIODE	
D33 , 34			1SS133	DIODE	
ED1	2A	*	FP121DMW24	FLUORESCENT INDICATOR TUBE	
IC1 , 2			XR-1091DCP	IC(GE DISPLAY FILTER)	
IC3			TC74HC4051AP	IC(ANALOG MULTIPLEXER)	
IC4		*	BA10393	IC(DUAL COMPALATOR)	
IC5			M50747-F92SP	IC(MICR0P0CESS0R)	

✕ New Parts
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3

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向備考
C94			CE04KW1H470M	ELECTR0 47UF 50WV	
C95			CE04DW1J101M	100UF 63WV	
C96			CE04KW2A471M	ELECTR0 470UF 100WV	
C97			C91-0847-05	CERAMIC 0.01UF F	
C98			CK45FF1H103Z	CERAMIC 0.010UF Z	
C99 , 100			CE04KW1V4R7M	ELECTR0 4.7UF 35WV	
C101-104			CK45FF1H103Z	CERAMIC 0.010UF Z	E MTX
C101, 102			CK45FF1H103Z	CERAMIC 0.010UF Z	
E1	2B		E03-0108-05	AC 0UTLET	ME T
E2	2B		E03-0109-05	AC 0UTLET	
E3	2B		E08-0312-05	RECTANGULAR RECEPTACLE(SYSTEM)	
E3	2B		E13-0446-05	PHONE JACK (4P) (LINE INPUT)	
F1			F05-2525-05	FUSE (SEMK0) (250V T2.5A)	E
CN4 , 5			J13-0075-05	FUSE CLIP	E
D			N89-3008-45	BINDING HEAD TAPITE SCREW	
E			N35-3008-46	BINDING HEAD MACHIN SCREW	
CP1 -4			R90-0491-05	MULTI-COMP 820KX7 J 1/6W	
P51 -53			RD14NB2E681J	RD 680 J 1/4W	
RS4 , 55			RS14KB3D391J	FL-PR00F RS 390 J 2W	
S1	2B		S31-2131-05	SLIDE SWITCH (Power voltage)	M
D1 -4			S5688B	DIODE	
D1 -4			1SR139-100	DIODE	
D5 , 6			HSS104A	DIODE	
D5 , 6			1SS131	DIODE	
D7 -10			S5688B	DIODE	
D7 -10			1SP139-100	DIODE	
D11			HZS6.2N(B2)	ZENER DIODE	
D11			RD6.2ES(B2)	ZENER DIODE	
D12			HSS104A	DIODE	
D12			1SS131	DIODE	
D13 , 14			HZS6.8N(B2)	ZENER DIODE	
D13 , 14			RD6.8ES(B2)	ZENER DIODE	
D15			HZS5.1N(B2)	ZENER DIODE	
D15			RD5.1ES(B2)	ZENER DIODE	
D16 -24			HSS104A	DIODE	
D16 -24			1SS131	DIODE	
IC1 , 2			NJU7305L	IC(ELECTRIC VOLUME)	
IC3 -6			MS229P	IC(7CH GRAPHIC EQUALIZER)	
IC7			NJM4558D	IC(0P AMP X2)	
IC8			UPC7915HF	IC(VOLTAGE REGULATOR/ -15V)	
IC9			UPC7815HF	IC(VOLTAGE REGULATOR/ +15V)	
Q1 , 2			2SC2878(B)	TRANSISTOR	
Q3			2SA1309A(Q,R)	TRANSISTOR	
Q3			2SA933S(Q,R)	TRANSISTOR	
Q3			2SA933S(Q,R)	TRANSISTOR	
Q3			2SB941	TRANSISTOR	
Q5			2SA1309A(Q,R)	TRANSISTOR	
Q5			2SA933S(Q,R)	TRANSISTOR	
Q6 , 7			DTA124ES	DIGITAL TRANSISTOR	
Q6 , 7			UN4112	TRANSISTOR	
Q8 , 9			2SC3246	TRANSISTOR	

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AAFE(S(Europe)) X:Australia M:Other Areas
△ indicates safety critical components.

* New Parts
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Teile ohne **Parts No.** werden nicht geliefert.

5

Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部 品 名 / 規 格	Desti- nation 向 仕	Re- marks 備考
IC6						
IC7 -12		*	M50945-104SP	IC		
IC13			TC74HC77AP	IC(D-TYPE LATCH)		
Q1			TC74HC4028AP	IC		
Q2			2SA1309A(Q,R)	TRANSISTOR		
Q3			2SA933S(Q,R)	TRANSISTOR		
Q4 -29			2SD1266(Q,P)	TRANSISTOR		
Q4 -29			2SC1740S(Q,R)	TRANSISTOR		
Q30 ,31			2SC3311A(Q,R)	DIGITAL TRANSISTOR		
Q30 ,31			DTA124ES	DIGITAL TRANSISTOR		
Q32 -70			DTA124ES	TRANSISTOR		
Q32 -70			UN4112	DIGITAL TRANSISTOR		
Q73 -94			DTA124ES	DIGITAL TRANSISTOR		
Q73 -94			UN4112	TRANSISTOR		
Q95			2SC2003(L,K)	TRANSISTOR		

L:Standard
Y:Yamato Ltd.(Hawaii)
Y:Yamato Ltd.
K:USA
T:England
X:Australia
P:Canada
E:Europe
M:Other Areas

Indicates same parts company

GE-850

SPECIFICATIONS

[Performance]

Equalizer characteristic variable range	±12dB
Center frequencies	40Hz, 63Hz, 98Hz, 160Hz, 250Hz, 400Hz, 625Hz, 1kHz, 1.5kHz, 2.5kHz, 3.9kHz, 6.3kHz, 10kHz, 16kHz
Total harmonic distortion (at 1kHz, flat)	0.006%
Gain	0dB
Frequency response	10Hz to 70kHz, ±3dB
Maximum output voltage (at 1% T.H.D)	9V
Signal to noise ratio (IHF'66)	100dB
Input impedance	47kΩ
Output impedance	2.2kΩ

[General]

Power consumption	19W
AC outlets (except for Australia) UNSWITCHED	1(200W max.)
Dimensions	W : 360mm H : 109mm D : 353mm
Weight (Net)	3.4kg

Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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